valve plug 44 is turned in a counter-clockwise position, reference being made to Figure 9, the valve plug 44 will be displaced slightly so that it is moved slightly axially to the right, reference being made to Figures 6 and 8. However, inasmuch as the duct 42 is in alignment with the opening 49, water flow will be permitted in any event and a slight amount of water flowing around the end 47 will not create any malfunction of the valve arrangement.

The wall thickness of the pop-up shaft 34 is increased, such that the water passageway 42 is roughly 3/16 to 1/4 inch in diameter. This modification increases the amount of plastic in order to allow for installation of the valve stem. In essentially all embodiments, it will be necessary to increase wall thickness in order to accommodate the small control valve of the present invention. One portion of the sprinkler head body almost necessarily has to be thickened so as to allow for the use of a valve plug to control water flow. Clearly, the same holds true when the small end valve is located in a riser tube of modified design. Even in the case of an adaptive fitting, which may also be in the nature of a coupling, it is also necessary to provide a thickened wall section to allow receipt of a shiftable plunger for control of water flow (Figure 14 and 15).

In essence, the valve plug or valve stem 44 can easily adopt the form of a 1/4 to 5/16 inch diameter set screw. The diameter of

the valve plug can vary. However, in one embodiment, the valve plug has a 1/4 to 5/16 inch diameter. In another embodiment, the diameter ranges from are 3/8 and ½ inch. However, there is no criticality to these diameter ranges, except that the interior plug must be capable of having a hole drilled or otherwise formed therein. Moreover, the hole should have a diameter not less than that of the duct. When the valve stem 44 is torqued against the inner end of the recess, the opening will be rotated to close off the passageway. In pop-up heads, the outer end of the set screw or valve plug is flush with or recessed slightly below the outer surface of the pop-up riser shaft when in the opened or closed position. The inside end 47 of the valve plug 44 is rounded so as to fit snugly within the recess 46, when shown in the closed position, as shown in Figures 5 and 7. In this way, this type of construction precludes water leaking past the plug 44 or out from the sides of the valve arrangement. The recess 46 actually precludes water moving up the duct 42 when in the off position.

Figures 10 and 11 illustrate the arrangement of the valve assembly of the present invention incorporated in the body of a stationary shrub head. Figures 12 and 13 illustrate a retrofit arrangement, on an otherwise conventional embodiment of a shrub head. In the case of a retrofit arrangement, whether with an above ground pop-up sprinkler head, impact head or with a shrub head, a coupling or some oth r form of adaptiv fitting, the retrofit

arrangement is interposed between the sprinkler head itself and the riser pipe. In like manner, and specifically in the case of the pop-up sprinkler head, a substitute pop-up riser shaft can be replaced for that existing in the conventional pop-up